Sw. Dr.

What is claimed is:

- 1. A process of making a multi-piece golf ball comprising making at least one of a cover component and a core component of the ball by mixing two or more reactants that react and form a reaction product with a flex modulus of 5 310 kpsi in a reaction time of about 5 minutes or less, the component having a thickness of at least 0.01 inches and a demold time of 10 minutes or less.
- 2. A process according to claim 1, wherein the reaction product comprises at least one member selected from the group consisting of polyurethanes, polyureas, epoxies and unsaturated polyesters.
- 10 3. A process according to claim 1, wherein the reaction process comprises reaction injection molding.
 - 4. A process according to claim 1, wherein the reaction product comprises at least one member selected from the group consisting of polyurethane and polyurea.
- 5. A process according to claim 4, wherein the reaction product with a flex modulus of 5 300 kpsi is formed in a reaction time of about 3 minutes or less.
 - 6. A process according to claim 4, wherein the component has a thickness of at least 0.02 inches.
- 7. A process according to claim 4, wherein the component includes a cover component.
 - 8. A process according to claim 7, wherein the cover component is a dimpled cover layer and the cover component has a thickness of at least 0.02 inches.
- 9. A process according to claim 7, wherein the cover component has a hardness of 20 95 Shore D.
 - 10. A process according to claim 7, wherein the cover component has a hardness of 30 75 Shore D.
- 11. A process according to claim 1, wherein the component includes a 30 core component.

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- 12. A process according to claim 2, further including the step of recycling at least a portion of the reaction product.
- 13. A process according to claim 12, wherein the reaction product is recycled by glycolysis.
- 14. A multi-piece golf ball comprising a reaction injection molded material comprising polyurethane/polyurea.
 - 15. A golf ball according to claim 14, wherein the reaction injection molded material comprising polyurethane/polyurea includes at least one of ether functional groups and ester functional groups.
- 16. A golf ball according to claim 14, wherein at least 5% of the polyurethane/polyurea is formed from molecules obtained by recycling a material comprising one of polyurethane, polyurea, polyester, and polyethylene glycol.
- 17. A golf ball according to claim 14, wherein recycling takes place by glycolysis.
 - 18. A golf ball according to claim 14, wherein the ball has a core and a cover and at least the cover comprises reaction injection molded polyurethane/polyurea material.
- 19. A golf ball according to claim 18, wherein the ball includes an 20 exterior coating surrounding the cover.
 - 20. A golf ball according to claim 18, wherein the core is solid, multi-layer, wound, liquid filled, metal filled and/or foamed.

21. A golf ball according to claim 18, wherein the cover has a flex modules of 5 - 310 kpsi.

- 22. A golf ball according to claim 18, wherein the cover has a flex modulus of 5 100 kpsi.
- 23. A golf ball according to claim 18, wherein the exterior coating is applied over the cover after molding of the cover.
- 24. A golf ball according to claim 18, wherein the hardness of the cover is 30 20 95 Shore D.

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- 25. A golf ball according to claim 18, wherein the hardness of the cover is 30 75 Shore D.
- 26. A golf ball according to claim 25, wherein the flexural modulus of the cover is in the range 5 to 100 kpsi.
- 5 27. A golf ball according to claim 18, wherein the flexural modulus of the cover is higher than that of the core.
 - 28. A golf ball according to claim 18, wherein the ball has a multi-layer cover.
- 29. A golf ball according to claim 18, wherein the cover comprises a reaction injection molded material comprising polyurethane and further comprises at least one member selected from the group consisting of optical brightener, pigment, dye, antioxidant, and UV light stabilizer.
 - 30. A golf ball according to claim 18, wherein the cover further comprises a filler.
- 31. A golf ball according to claim 30, wherein the filler includes at least one member selected from the group consisting of glass, metal, minerals, oxides, sulfides, titanates, polymeric resins and ceramics.
- 32. A golf ball according to claim 14, wherein the ball has a core and a cover, and at least the core comprises a reaction injection molded 20 polyurethane/polyurea material.
 - 33. A golf ball according to claim 30, wherein the core comprises at least two components and at least one core component comprises reaction injection molded polyurethane/polyurea material.
- 34. A golf ball according to claim 14, wherein the ball has a core, and a 25 cover, each of which comprises reaction injection molded polyurethane/polyurea material.
 - 35. A golf ball according to claim 30, wherein the cover comprises an ionomer.
- 36. A golf ball according to claim 14, wherein the polyurethane/polyurea
 30 material incorporates meta-tetramethylxylylene diisocyanate.

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- 37. A golf ball according to claim 18, wherein the cover has a generally uniform consistency both at the seam and the poles.
- 38. A process for producing a golf ball including the step (a) of: reaction injection molding a polyurethane/polyurea material to form at least one of a core layer and a cover layer of the ball.

79 A process according to claim 36, further comprising the step of (b) recycling at least 20% of the polyurethane/polyurea that is produced in connection with step (a) but which is not incorporated into the ball during that step

40. A process for producing a golf ball comprising (a) forming a core, (b) covering the core, and (c) coating and adding indicia to the covered ball, wherein at least one of steps (a) and (b) comprises reaction injection molding of a polyurethane/polyurea material.

A process according to claim 38, further comprising the step of (d) recycling at least 20% of the RIM-produced material comprising polyurethane that was produced sonsequent to step (a).

- 42. A golf ball comprising at least one fast-chemical-reaction-produced layer, said layer having a flex modulus of 5 310 kpsi in a reaction time of 5 minutes or less and a thickness of at least 0.01".
- 20 43. A golf ball according to claim 42, wherein said ball has a multi-layer cover and said at least one fast-chemical-reaction-produced layer is an inner cover layer.
- 44. A golf ball having a core and a cover, the cover comprising polyurethane/polyurea which is formed from reactants, 5 100 weight percent
 25 of which are obtained from recycled polyurethane/polyurea.

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